CLAIMS:

1. A substantially pure nucleic acid which is homologous with a *Eco*RI/*Xho*I fragment isolated from bacteriophage λ clone 44B.1 deposited under ATCC accession No. **[N]**, wherein homologous sequences have a sequence alignment score of greater than 200 as calculated by BLASTN 2.1.2.

2. A substantially pure nucleic acid which hybridizes to a *Eco*RI/*Xho*I fragment isolated from bacteriophage λ clone 44B.1 deposited under ATCC accession No. **[N]** under stringent hybridization conditions, wherein stringent hybridization conditions comprise 0.5 MNaHPO$_4$ /1mM EDTA/7%(w/v) SDS at 55°C.

3. The nucleic acid of claim 2, wherein hybridization conditions include hybridization at 60°C.

4. The nucleic acid of claim 2, wherein hybridization conditions include hybridization at 65°C.

5. A substantially pure nucleic acid which encodes the amino acid sequence encoded by the *Eco*RI/*Xho*I fragment isolated from bacteriophage λ clone 44B.1 deposited under ATCC Accession No. [N].

6. The nucleic acid of claim 1 or 2, wherein the nucleic acid is RNA.

7. The nucleic acid of claim 1 or 2, wherein the nucleic acid is produced by recombinant methods.

8. The nucleic acid of claim 1 or 2, wherein the nucleic acid contains at least 15 nucleotides.

9. A pair of nucleic acid primers comprising at least 10 contiguous nucleotides selected from or complementary to portion of a *Eco*RI/*Xho*I fragment isolated from bacteriophage λ clone 44B.1 deposited under ATCC accession No. ___[N]___, wherein nucleic acid amplification using the pair of nucleic acid primers will produce an amplified nucleic acid comprising at least 18 contiguous nucleotides of the *Eco*RI/*Xho*I fragment isolated from bacteriophage λ clone 44B.1 deposited under ATCC accession No. ___[N]___.

10. A replicon comprising a sequence of at least 18 contiguous nucleotides selected from the sequence of a *Eco*RI/*Xho*I fragment isolated from bacteriophage λ clone 44B.1 deposited under ATCC accession No. ___[N]___ or its complement under control of a promoter.

11. A recombinant cell containing the replicon of claim 10.

12. A substantially pure polypeptide comprising an amino acid sequence encoded by a *Eco*RI/*Xho*I fragment isolated from bacteriophage λ clone 44B.1 deposited under ATCC accession No. ___[N]___, wherein said polypeptide comprises at least one epitope.

13. The polypeptide of claim 12, wherein the polypeptide contains at least 9 amino acids.

14. The polypeptide of claim 12, wherein the polypeptide consists essentially of an amino sequence encoded by said *Eco*RI/*Xho*I fragment.

15. An antibody which specifically binds to a mammalian protein comprising an amino acid sequence encoded by a *Eco*RI/*Xho*I fragment isolated from bacteriophage λ clone 44B.1 deposited under ATCC accession No. ___[N]___.

16. The antibody according to claim 15, wherein the antibody is in an isolated polyclonal antiserum, a preparation of purified polyclonal antibodies, or a preparation containing one or more monoclonal antibodies.

17. A method for selecting variant nucleic acid sequences comprising (a) screening mammalian DNA or RNA with a nucleic acid probe comprising the nucleic acid of claim 1 or claim 2, (b) sequencing the DNA or RNA obtained in said screening, and (c) selecting DNA or RNA having sequences that differ from the nucleic acid sequence in a *Eco*RI/*Xho*I fragment of bacteriophage λ clone 44B.1 deposited under ATCC accession No. **[N]** by at least one nucleotide.

18. A method of screening for cancer in an individual comprising determining whether cells in the individual are expressing a gene product encoded by a *Eco*RI/*Xho*I fragment isolated from bacteriophage λ clone 44B.1 deposited under ATCC accession No. **[N]**, expression of this product being correlated with an increased likelihood of cancer in the individual.

19. A nucleic acid encoding HOXB7 having an amino acid sequence corresponding to the amino acid sequence encoded by the sequence shown as SEQ ID NO: 1.

20. A protein encoded by the nucleic acid of claim 19.

21. A method of screening for cancer in an individual comprising determining whether cells in the individual are expressing a product encoded by the nucleic acid of claim 19, expression of this product being correlated with an increased likelihood of cancer in the individual.

22. A method of screening for cancer other than breast cancer or melanoma in an individual comprising determining whether cells in the individual are expressing a gene product of HOXB7 gene, expression of this gene product being correlated with an increased likelihood of cancer in the individual.

23. A method of screening for cancer other than renal cell carcinoma or colon cancer in an individual comprising determining whether cells in the individual are expressing a gene product of HOXA7 gene, expression of this gene product being correlated with an increased likelihood of cancer in the individual.

24. A method of screening for benign serous cystadenoma in an individual comprising determining whether cells in the individual are expressing a gene product of HOXA7, expression of this gene product being correlated with an increased likelihood of benign serous cystadenoma in the individual.

25. A method of screening for ovarian neoplasm in an individual comprising determining whether cells in the individual are expressing a gene product of HOXA7, expression of this gene product being correlated with an increased likelihood of ovarian neoplasm in the individual.

26. The method of claim 25, wherein the ovarian neoplasm is ovarian cancer.

27. The method of claim 25, wherein the ovarian neoplasm is benign serous cystadenoma.

28. A method of screening for cancer in an individual comprising determining whether cells in the individual are expressing a product consisting of ATP-

dependent iron transporter ABC-7, expression of this product being correlated with an increased likelihood of cancer in the individual.

29. A method of screening for cancer in an individual comprising determining whether cells in the individual are expressing a product consisting of ADP-ribosylation factor 1 (Arf-1), expression of this product being correlated with an increased likelihood of cancer in the individual.

30. A method of screening for cancer in an individual comprising determining whether cells in the individual are simultaneously expressing two or more gene products selected from the group consisting of homeobox protein HOXA7, homeobox protein HOXB7, ADP-ribosylation factor 1 (Arf-1), ATP-dependent iron transporter ABC-7, and the protein encoded by a *Eco*RI/*Xho*I fragment of bacteriophage λ clone 44B.1 deposited under ATCC accession No. **[N]**, expression of a plurality of these gene products being correlated with an increased likelihood of cancer in the individual.

31. The method according to any one of claim 18 or 21-30, wherein said method comprises

providing a histologic section of tissue from the individual;

contacting said histologic section with antibody which specifically binds said product; and

determining said antibody specifically binds to the histologic section, whereby specific binding of said antibody to the histologic section correlates with increased likelihood of cancer in the individual.

32. The method according to any one of claim 18 or 21-30, wherein said method comprises

providing a sample of tissue from the individual; and

determining, in said sample, level of expression of a gene product having the sequence of said product, whereby expression of said product in the sample correlates with increased likelihood of cancer in the individual.

33. The method of claim 32, wherein the gene product is mRNA.

34. The method of claim 33, wherein the mRNA is extracted from said sample and quantitated.

35. The method of claim 33, wherein the level of mRNA is determined by *in situ* hybridization to a section of the tissue sample.

36. The method of claim 33, wherein the mRNA is quantitated by reverse transcriptase-polymerase chain reaction.

37. The method of claim 32 wherein the tissue is a carcinoma.

38. The method of claim 37, wherein the carcinoma is ovarian cancer.

39. A kit for screening human samples according to the method of claim 31, comprising in one or more containers;

an antibody which specifically binds to one or more epitopes found on said product; and

a reagent means for detecting the antibody.

40. A kit for screening human samples according to the method of claim 32, comprising in one or more containers:

a nucleotide probe which hybridizes to mRNA encoding said product; and

reagent means for detecting the nucleotide probe.

41. A method of screening for cancer in an individual comprising obtaining a sample of bodily fluid from the individual and determining whether or not the sample contains antibodies specific for one or more of the proteins selected from the group consisting of homeobox protein HOXA7, homeobox protein HOXB7, ADP-ribosylation factor 1 (Arf-1), ATP-dependent iron transporter ABC-7, and the protein encoded by a *Eco*RI/*Xho*I fragment of bacteriophage λ clone 44B.1 deposited under ATCC accession No. **[N]**, the presence of antibodies to any one of these proteins being correlated with an increased likelihood of cancer in the individual.

42. A method of screening for cancer in an individual comprising obtaining a sample of bodily fluid from the individual and determining whether or not the sample contains one or more proteins selected from the group consisting of homeobox protein HOXA7, homeobox protein HOXB7, ADP-ribosylation factor 1 (Arf-1), ATP-dependent iron transporter ABC-7, and the protein encoded by a *Eco*RI/*Xho*I fragment of bacteriophage λ clone 44B.1 deposited under ATCC accession No. **[N]**, the presence of any one of these proteins in the bodily fluid being correlated with an increased likelihood of cancer in the individual.

43. A method of cancer therapy comprising immunizing an individual with an immunogenic composition to elicit an immune response to one or more of the proteins selected from the group consisting of homeobox protein HOXA7, homeobox protein HOXB7, ADP-ribosylation factor 1 (Arf-1), ATP-dependent iron transporter ABC-7, and the protein encoded by a *Eco*RI/*Xho*I fragment of bacteriophage λ clone 44B.1 deposited under ATCC accession No. **[N]**.

44. The method of claim 43, wherein the immune response is a cellular immune response.

45. The method of claim 43, wherein the immunogenic composition comprises at least one epitope of one or more of the proteins selected from the group consisting of homeobox protein HOXA7, homeobox protein HOXB7, ADP-ribosylation factor 1 (Arf-1), ATP-dependent iron transporter ABC-7, and the protein encoded by a *Eco*RI/*Xho*I fragment of bacteriophage λ clone 44B.1 deposited under ATCC accession No. **[N]**.